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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,811	02/27/2004	Suda Kazuyuki	51557	7845

21874 7590 08/21/2006

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BOSTON, MA 02205

EXAMINER
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WONG, EDNA

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/788,811

Applicant(s)

KAZUYUKI ET AL.

Examiner

Edna Wong

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date July 20, 2006.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 7, 2006 has been entered.

This is in response to the Amendment dated August 7, 2006. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Response to Arguments***

**Claim Rejections - 35 USC § 103**

I. Claims 1 and 5-6 have been rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-181589 ('589).

The rejection of claims 1 and 5-6 under 35 U.S.C. 103(a) as being unpatentable over JP 11-181589 ('589) has been withdrawn in view of Applicants' remarks.

II. Claim 2 has been rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-181589 ('589) as applied to claims 1 and 5-6 above, and further in view of JP 7-

**138782 ('782).**

The rejection of claim 2 under 35 U.S.C. 103(a) as being unpatentable over JP 11-181589 ('589) as applied to claims 1 and 5-6 above, and further in view of JP 7-138782 ('782) has been withdrawn in view of Applicants' remarks.

**III. Claim 4** has been rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 11-181589 ('589)** as applied to claims 1 and 5-6 above.

The claim 4 under 35 U.S.C. 103(a) as being unpatentable over JP 11-181589 ('589) as applied to claims 1 and 5-6 above has been withdrawn in view of Applicants' remarks.

### ***Response to Amendment***

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

#### ***Solution***

**I. Claims 1 and 5-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 7-138782 ('782)** in combination with **JP 11-181589 ('589)**.

JP '782 teaches an electrolytic tin-plating solution, having a pH value of 1.5-6.0

(= pH of 2-9) [page 3, [0009]] and comprising:

- (1) 5-60 g/L of tin(II) ion (= 1-50 g/l tin ion of bivalence) [page 2, [0007]];
- (2) a complexing agent (= gluconic acid, glucoheptonic acid and gluconic lactone (page 2, [0005]); and citric acids (page 5, Table 4));
- (3) a non-ionic surfactant such as alkyl nonylphenyl ether (page 2, [0008]);
- (4) 0.01-0.5 g/L of bismuth(III) ion (= 0.2-40 g/l trivalent bismuth ion) [page 2, [0007]]; and
- (5) a conducting salt, an anode-dissolving agent or an antioxidant (= an alkali metal salt in order to make good energization nature at the time of plating) [page 2, [0008]].

The non-ionic surfactants range from 0.1-20 g/L (= 4-8 g/l) [page 2, [0008]].

The non-ionic surfactants range from 0.5-5.0 g/L (= 4-8 g/l) [page 2, [0008]].

The bismuth(III) ion ranges from 0.02-0.2 g/L (= 0.2-40 g/l) [page 2, [0007]].

The solution of JP '782 differs from the instant invention because JP '782 does not disclose wherein one or more non-ionic surfactants are chosen from polyoxyethylene lauryl ether, polyoxyethylene polyoxypropylene glycol with an average of 10 units of ethylene oxide and an average of 4 units of propylene oxide and polyoxyethylene nonyl phenyl with an average of 9 units of ethylene oxide, as recited in claim 1.

JP '782 teaches alkyl nonylphenyl ether (page 2, [0008]).

Like JP '782, JP '589 teaches an electrolyte tin-plating solution. JP '589 teaches polyoxyethylene nonylphenyl ether as a non-ionic surfactant (page 2, [0015]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the non-ionic surfactants described by JP '782 with wherein one or more non-ionic surfactants are chosen from polyoxyethylene lauryl ether, polyoxyethylene polyoxypropylene glycol with an average of 10 units of ethylene oxide and an average of 4 units of propylene oxide and polyoxyethylene nonyl phenyl with an average of 9 units of ethylene oxide because structural relationships may provide the requisite motivation or suggestion to modify known compounds to obtain new compounds. For example, a prior art compound may suggest its homologs because homologs often have similar properties and therefore chemists of ordinary skill would ordinarily contemplate making them to try to obtain compounds with improved properties (MPEP § 2144.08(II)(A)(4)(c) and §2144.09).

#### *Method*

II. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-138782 ('782) in combination with JP 11-181589 ('589) as applied to claims 1 and 5-7 above.

JP '782 also teaches a method for electrolytic tin plating (page 3, 0010), characterized by using the electrolytic tin plating solution of claim 1 for electrolytic tin plating on electronic parts (= in the field of the electronic industry) [page 1, [0002]].

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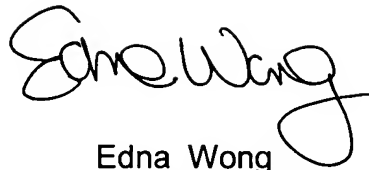
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read "Edna Wong". The signature is fluid and cursive, with the first name "Edna" and last name "Wong" clearly distinguishable.

Edna Wong  
Primary Examiner  
Art Unit 1753

EW  
August 14, 2006